

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION

NO. 7:16-CV-244-FL

CHRISTOPHER LIGHTFOOT,

Plaintiff,

v.

GEORGIA-PACIFIC WOOD
PRODUCTS, LLC; GEORGIA-PACIFIC
LLC individually and as successor-in-
interest to Georgia-Pacific Corporation;
WEYERHAEUSER COMPANY;
WEYERHAEUSER NR COMPANY;
LOWE'S HOME CENTERS, LLC (NC);¹
and JOHN DOE #1,

Defendants.

ORDER

This matter is before the court on defendants' motions² to exclude expert witnesses designated by plaintiff, (DE 134, 136, 138, 139), and to strike declarations filed in response (DE 159). The motions have been fully briefed, and in this posture the issues raised are ripe for ruling. For the following reasons, defendants' motions to exclude are granted in part and denied in part as

¹ Defendant here denominated as "Lowe's Home Centers, LLC (NC)" ("Lowe's") is misspelled in the caption of the complaint and on the face of the docket, where the correct spelling here is confirmed through the body of the complaint and said defendant's papers. Defendant here denominated as "Georgia-Pacific LLC individually and as successor-in-interest to Georgia-Pacific Corporation" is not listed completely on the face of the docket. The clerk is DIRECTED to conform the caption on the docket to the caption of this order.

² As discussed herein, plaintiff and defendant Lowe's reported reaching settlement in this matter, although no stipulation or notice of dismissal has been filed. Accordingly, unless otherwise specified, the term "defendants" as used herein refers to the following moving defendants: Georgia-Pacific Wood Products, LLC and Georgia-Pacific LLC (together, "Georgia-Pacific"); and Weyerhaeuser Company and Weyerhaeuser NR Company (together, "Weyerhaeuser"). In addition, after briefing on the instant motions completed, the court granted unopposed motion for summary judgment in favor of defendant Weyerhaeuser NR Company; for ease of reference, the court will refer to both defendant Georgia-Pacific and defendant Weyerhaeuser each in the singular.

set forth herein. Defendants' motion to strike is denied, but the court awards defendants alternative sanctions and relief as set forth herein.³

STATEMENT OF THE CASE

Plaintiff commenced this action in state court, in Fulton County, Georgia, on January 7, 2016, for personal injuries, including a form of sinonasal cancer, allegedly sustained as a result of exposure to wood dust associated with products manufactured and sold by defendants.⁴ Plaintiff asserts claims for negligence and products liability, and plaintiff seeks damages including compensatory and punitive damages.

Defendant Georgia-Pacific removed the case on February 15, 2016, on the basis of diversity jurisdiction, to the United States District Court for the Northern District of Georgia. After a period of briefing regarding issues of jurisdiction and venue, on July 1, 2016, that court sua sponte transferred the action to this court in accordance with the venue provisions of 28 U.S.C. § 1404(a).

In this court, after confirming with the parties that no issues of jurisdiction and venue remained, the court entered original case management order on September 27, 2016, as well as subsequent amended case management orders, setting forth case deadlines in pertinent part as follows:

- 1) Plaintiff's deadline for expert disclosures: June 1, 2017;
- 2) Defendants' deadline for expert disclosures: September 1, 2017;
- 3) Deadline for all discovery, including expert discovery: November 1, 2017;

³ Also pending are unopposed motions for joinder filed by defendant Weyerhaeuser (DE 165, 166), which are GRANTED, for good cause shown.

⁴ Plaintiff asserts also damages resulting from exposure to formaldehyde, but for purposes of the instant motions plaintiff does not assert any basis for relief due to exposure to formaldehyde. Accordingly, the court does not discuss plaintiff's asserted exposure to formaldehyde further herein.

- 4) Deadline for motions to exclude expert testimony including under Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) (“Daubert motions”): December 1, 2017;
- 5) Deadline for all other potentially dispositive motions: 30 days of the court’s ruling on any Daubert motions.

Prior to filing the instant motions, the parties filed several discovery motions, including a motion to strike a supplemental expert report disclosed by plaintiff, which motions were addressed in magistrate judge orders entered May 1, 2017, and November 2, 2017.

In the meantime, on September 26, 2017, defendant Lowe’s moved for summary judgment on the basis that it was a non-manufacturing seller and it had no duty to warn. Defendant Weyerhaeuser moved to join defendant Lowe’s motion in that part asserting no duty to warn. In response to defendant Lowe’s’ motion, plaintiff noted that he had “reached a settlement of all claims against Defendant Lowe’s” as reflected in joint letter filed October 12, 2017. (DE 125 at 1). That joint letter noted that plaintiff and defendant Lowe’s were in the process of “finalizing written agreements that will result in the dismissal of the Plaintiff’s claims against Defendant Lowe’s with prejudice,” and that “dismissal will be on file within the next sixty (60) days.” (DE 124).⁵

On November 17, 2017, the court denied as moot defendant Lowe’s’ motion for summary judgment in light of the settlement noticed. The court also denied defendant Weyerhaeuser’s motion for joinder, allowing defendant Weyerhaeuser to file a motion for summary judgment by December 1, 2017. Upon further clarification, the court specified that all summary judgment motions will be due 30 days after ruling on Daubert motions.

⁵ Plaintiff and defendant Lowe’s have not filed any stipulation of dismissal or motion as appropriate. The court inadvertently overlooked the absence of such upon passing of 60 days since the October 12, 2017, joint letter announcing settlement. The court now DIRECTS plaintiff and defendant Lowe’s to file a stipulation of dismissal or motion as appropriate, on the basis thereon, within 21 days of the date of this order.

On December 1, 2017, defendants filed jointly the instant Daubert motions to exclude plaintiff's experts (collectively, "plaintiff's experts"), denominated as follows:

- 1) Motion to Exclude the Testimony of Dr. Margaret Brandwein-Weber ("Brandwein-Weber") (DE 134);
- 2) Motion to Exclude the Testimony of Dr. Kristan J. Aronson ("Aronson") (DE 136);
- 3) Motion to Exclude the Testimony of Dr. Jeremiah Boles ("Boles") (DE 138);
- 4) Motion to Exclude the Testimony of Dr. Rachael Jones ("Jones") (DE 139).

In support of their Daubert motions, defendants rely upon the expert reports and transcript of depositions of plaintiff's experts, as well as transcripts of depositions of plaintiff and plaintiff's father Thomas Lightfoot. In addition, defendants rely upon expert reports or transcripts of depositions of certain experts disclosed by defendants, including Dr. David Garabrant ("Garabrant"), Dr. Ellen Chang ("Chang"), Dr. James Stark ("Stark"), Dr. Marion J. Fedoruk ("Fedoruk"), and Ms. Jennifer Sahmel ("Sahmel"),⁶ as well as transcript of deposition of Mr. Van Fidino, Rule 30(b)(6) witness of defendant Weyerhaeuser. Defendants also rely upon scientific articles, studies, and reports, regarding wood dust exposure risks, as well as past Material Safety Data Sheets ("MSDS") regarding wood dust. In the alternative to exclusion, defendants seek at a minimum an evidentiary hearing on their motions.⁷

⁶ In Ms. Sahmel's resume, dated March 31, 2017, she indicates that she is in the process of obtaining a PhD in environmental health sciences, a course of study for which she has "[e]stimated completion" in "2017." (Sahmel Resume (DE 145-13) at 1). In her report, dated September 1, 2017, she does not represent that she has obtained a PhD. (Sahmel Rep. (DE 145-3) at 1). In the description of Ms. Sahmel's report filed December 4, 2017, on the docket, however, defendants describe Ms. Sahmel as "Dr. Jennifer Sahmel." Because the present record does not reflect that Ms. Sahmel has been awarded a PhD degree as of this date, the court will continue to refer to her as Ms. Sahmel rather than Dr. Sahmel for purposes of this order.

⁷ Also on December 1, 2017, defendant Georgia-Pacific filed a motion for leave to file a supplemental brief, accompanied by proposed supplemental brief, which relies also on the Sahmel expert report. Plaintiff did not oppose the motion and the court allowed filing of the supplemental brief on January 17, 2018.

In responses in opposition to the Daubert motions, filed January 9, 2018, plaintiff relies upon declarations executed by each of his four disputed experts, along with their original reports and deposition testimony. Plaintiff also relies upon transcripts of his deposition and plaintiff's father's deposition, as well as transcript of deposition of defendants' expert Stark. In addition, plaintiff relies upon past MSDSs regarding wood dust.

On January 19, 2018, defendants moved to strike the four expert declarations filed by plaintiff in response to defendants' Daubert motions, on the basis that such declarations constitute untimely new opinions. Defendants also filed replies in further support of their Daubert motions.

In response in opposition to the motion to strike declarations, plaintiff relies upon excerpts of depositions of his experts and their reports. Defendants filed reply in support of their motion to strike declarations on February 22, 2018. Thereafter, the court allowed plaintiff to file a corrected response in opposition to the motion to exclude testimony of Brandwein-Weber. Defendants filed a further reply related thereto on April 17, 2018, relying upon the Stark expert report, as well as transcripts of depositions of plaintiff's treating oncologist, Dr. Nabil Saba ("Saba"), and plaintiff's treating physician, Dr. John M. Delgaudio ("Delgaudio").

Defendants filed notices of subsequently decided authority on May 17, 2018, and June 15, 2018.

SUMMARY OF FACTS AND EXPERT OPINIONS

A. Facts

For purposes of background to the instant Daubert motions, the facts underlying plaintiff's claims, viewed in the light most favorable to plaintiff, may be summarized as follows.

Plaintiff was born on July 16, 1974. (Pl's Dep. 12).⁸ He lived with his family at a house in Winfall, Perquimans County, North Carolina, as a child until he left for college in Fall 1992. (Id. 34, 104). Plaintiff's father maintained a building in the back yard of the property as a woodworking shop (the "wood shop" or "shop") during the time that plaintiff was living at home. (Id. 214). The shop was about 20 feet square with a concrete pad, one window, an one entryway comprised of an outer "barn door" and an interior door. (Id. 215-216). The shop was expanded by another 10 to 15 feet on one side in 1988. (Id. 298-299).

In the shop, there was a workbench, tool cabinet, and space for overhead wood storage. (Id. 218-221). The shop did not have mechanical ventilation or air conditioning, and the doors were kept open when it was hot. (Id. 215-217). There were a number of tools in the shop including a table saw, circular saw, band saw, sanders, grinders, drills, and other woodworking tools. (T. Lightfoot Dep. 45, 127-129).

Plaintiff's father engaged in substantial woodworking activities in the wood shop during the years that plaintiff was at home. Plaintiff's father made 15 to 20 picnic tables per year; 30 to 50 vegetable bins per year; 30 to 50 trash cans per year; and four to five chair swings per year. (Pl's Dep. 258-260, 296). Plaintiff's father made these items to sell to individuals in and around the community where he lived. (Id. 231, 240-241, 388-389). Plaintiff's father also made items for the family, including kitchen cabinets, an entertainment center, and fence slats. (Id. 271-275). He

⁸ Where there are multiple copies of pertinent court documents in the file, sometimes with different formatting and pagination, page numbers in citations to record documents are to page numbers indicated on the face of the document, where provided, rather than the page number specified by the electronic case filing (ECF) system on the documents as filed in the court's docket. If a page number after the first page is not shown on the face of the document, the court will cite to the page number specified electronically in the ECF system, or provide a citation to paragraph (§). There are several complete copies of depositions of plaintiff and plaintiff's father in the file (e.g., DE 135-2; 137-4; 171-4) cited herein as "Pl's Dep." and "T. Lightfoot Dep." There are likewise multiple copies, in some instances, of expert witness reports, declarations, and depositions, that will be cited in the same manner. Upon first citation to each, the court will provide docket entry number of the first instance in the record in which the document appears.

completed home remodeling projects, including flooring, paneling, and stairs. (Id. 283-287). Starting during plaintiff's senior year of high school (1991-1992), plaintiff's father refinished furniture for individuals in the community. (Id. 264-267).

Plaintiff's father acquired the wood used for the aforementioned projects primarily (about 60%) from a Weyerhaeuser mill where he worked as a mechanic, taking from a source of "reject wood" or "no value" in the mill. (T. Lightfoot Dep. 69, 76). Such wood was "mostly" pine. (Id.). Plaintiff's father acquired the remainder of his wood from Lowe's and Builders Discount Supply. (Id. 70). Such wood was supplied by Weyerhaeuser and Georgia-Pacific, and it was comprised of "mostly" pine and "some oak." (Id. 71, 74). Plaintiff's father used a "combination of pine and oak . . . sometimes." (Id. 74, 81). Pieces were constructed in the form of boards of various sizes and "plywood." (Id. 72). The entertainment center was constructed of birch and plywood. (Id.; Pl's Dep. 275). The vegetable bins were constructed of "mainly pine" but also birch "from time to time." (Pl's Dep. 243).

Plaintiff assisted his father with the aforementioned projects in varying amounts and with varying tasks between the age six (in 1981) and 18 (in 1992). Between the age six to nine, plaintiff mainly assisted with cleaning in the shop, including sweeping and shoveling wood dust, handing tools to his father, and moving items around the shop. (Pl's Dep. 221-223; T. Lightfoot Dep. 62). He also used a "little" electric sander. (T. Lightfoot Dep. 133). Beginning at age ten, plaintiff used a range of tools such as power drill, saws, and sanders in assisting with all phases of his father's wood projects, in addition to continuing with cleaning in the shop. (Id.; Pl's Dep. 234-235, 250-251).

With respect to hours spent in the shop, plaintiff typically spent about five hours a week in the shop between age six to nine; 20-25 hours per week between ages ten and 18 (Pl's Dep. 224, 251-253). These amounts varied in some years and seasons of the year depending on other activities in which plaintiff was involved. For example, plaintiff worked in the shop less in his senior year (1991-1992) because he had a 20-30 hour per week job at Hardees. (Id. 221). In the start of his tenth grade year, August through November 1989, plaintiff played junior varsity football. (Id. 85-86). Plaintiff worked more hours in the shop in springtime and summertime than wintertime. (Id. 230). 70 percent of such time was spent inside the shop and 30 percent outside. (Pl's Dep. 229).

Plaintiff attended college at North Carolina A&T University, where he obtained a bachelor's of science in electrical engineering. (Id. 104-105). Plaintiff also more recently earned a master's degree in management from Georgia Tech University. (Id. 106). Plaintiff has worked in several positions in the technology and telecommunications industry, and is presently employed by Google, Inc. (Id. 124).

In April 2014, plaintiff was diagnosed with "intestinal-type adenocarcinoma" ("ITAC"), a form of sinonasal cancer ("SNC"). (DelGaudio Dep. 18; Saba Dep. 18).

B. Expert Opinions

1. Dr. Aronson

Dr. Aronson is a professor in the Department of Public Health Sciences at Queen's University, in Ontario, Canada. (Aronson Decl. (DE 151-1) ¶ 2). Dr. Aronson prepared a "brief report on general causation for exposure to wood dust and cancer of the paranasal sinuses." (Aronson Rep. (DE 137-2) at 1). Therein, she opines that "[t]here is strong, consistent and valid scientific evidence that exposure to wood dust causes paranasal sinus cancer risk, and particularly

high risks for adenocarcinomas in relation to wood dust exposure.” (Id. at 6). She states that “[t]his general causation is not limited to any particular type of wood dust, nor to a specific pathology of the disease.” (Id. at 1).

2. Dr. Jones

Dr. Jones is an associate professor and director of the Industrial Hygiene Program at the School of Public Health at the University of Illinois at Chicago. (Jones Decl. (DE 152-1) ¶ 2). Dr. Jones prepared a “preliminary opinion regarding the exposures of [plaintiff] to wood dust that occurred in the woodworking shop of Mr. Thomas Lightfoot.” (Jones Rep. (DE 141-9) at 1). Therein she “determined [plaintiff] was cumulatively exposed to 43.4 mg/m³-work years wood dust.” (Id. at 14). She also provided information in her report regarding “Hazard Communications Expectations” and plaintiff’s awareness “of the carcinogenicity of wood dust.” (Id. at 12-13). She opined that plaintiff and his father “were unable to make informed decisions about their exposures to wood dust.” (Id. at 14).

3. Dr. Brandwein-Weber

Dr. Brandwein-Weber is a practicing pathologist and professor of pathology at the Icahn School of Medicine at Mount Sinai in New York. (Brandwein-Weber Rep. (DE 135-10) at 1). She prepared a report containing “opinions regarding [plaintiff’s] sinonasal intestinal type adenocarcinoma.” (Id.). She describes plaintiff’s medical history, diagnosis, and pathology. (Id. at 2-3). She also opines that “[b]ased on the intensity and duration of wood dust exposure, the latency period between exposure and diagnosis, published data by the International Agency for Research on Cancer/World Health Organization, and recent meta-analysis (Binazzi, 2015), it is very clear that wood-dust exposure is the cause of [plaintiff’s] ITAC.” (Id. at 3).

4. Dr. Boles

Dr. Boles is a practicing oncologist with Rex Hematology Oncology Associates in Raleigh, North Carolina, and an adjunct assistant professor in the Division of Hematology and Oncology at the University of North Carolina at Chapel Hill. (Boles Rep. (DE 140-10) at 1). He prepared a report in which he includes a “General Causation Opinion” that “exposure to wood dust over a period of years causes SNC and in particular ITAC.” (*Id.* at 6). He also offers a “Specific Causation” opinion that plaintiff’s “exposure to wood dust with estimated cumulative exposure of 43.4 mg/m³-work years is sufficient to be a cause for his ITAC.” (*Id.* at 7). Finally, he opines that plaintiff has certain conditions, “OS Retinopathy and Cataract,” that are “directly related to the radiation therapy he required for management of his ITAC.” (*Id.* at 8-9).

COURT’S DISCUSSION

A. Motion to Strike

Defendants seek to strike the four expert declarations filed by plaintiff in response to defendants’ Daubert motions, on the basis that such declarations constitute untimely new opinions.

“[A]t the times and in the sequence that the court orders” a party must disclose the identity of its expert witnesses, and “this disclosure must be accompanied by a written report – prepared and signed by the witness.” Fed. R. Civ. P. 26(a)(2)(B) & (D). The report must contain:

- (i) a complete statement of all opinions the witness will express and the basis and reasons for them;
- (ii) the facts or data considered by the witness in forming them;
- (iii) any exhibits that will be used to summarize or support them; . . .

Fed. R. Civ. P. 26(a)(2)(B). “The parties must supplement these disclosures when required under Rule 26(e).” Fed. R. Civ. P. 26(a)(2)(E).

With respect to supplementation, in general –

A party who has made a disclosure under Rule 26(a) . . . must supplement or correct its disclosure or response:

(A) in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing; or

(B) as ordered by the court.

Fed. R. Civ. P. 26(e)(1). For expert witnesses, in particular, “the party’s duty to supplement extends both to information included in the report and to information given during the expert’s deposition.”

Fed. R. Civ. P. 26(e)(2). “Any additions or changes to this information must be disclosed by the time the party’s pretrial disclosures under Rule 26(a)(3) are due.” *Id.* “Unless the court orders otherwise, these disclosures must be made at least 30 days before trial.” Fed. R. Civ. P. 26(a)(3).

“Rule 26(e)(1) requires a party to supplement its experts’ reports and deposition testimony when the party learns of new information.” S. States Rack And Fixture, Inc. v. Sherwin-Williams Co., 318 F.3d 592, 595-96 (4th Cir. 2003). “Courts distinguish ‘true supplementation’ (e.g., correcting inadvertent errors or omissions) from gamesmanship, and have therefore repeatedly rejected attempts to avert summary judgment by ‘supplementing’ an expert report with a ‘new and improved’ expert report.” Southern v. Bishoff, 675 F. App’x 239, 249 (4th Cir. 2017) (quoting Gallagher v. S. Source Packaging, LLC, 568 F.Supp.2d 624, 631 (E.D.N.C. 2008)); see also Wright & Miller, Expansion of Duty to Supplement or Correct, 8A Fed. Prac. & Proc. Civ. § 2049.1 n.18 (3d ed.) (noting that a “much expanded opinion . . . prompted solely by” an opponent’s motion “is not the proper role for supplementation of a report by an expert”) (quotations omitted).

If a supplemental disclosure is not made in accordance with Rule 26(e), the remedy is to exclude the improper disclosure from trial “unless the failure was substantially justified or is harmless.” Fed. R. Civ. P. 37(c)(1). “In addition to or instead of this sanction, the court, on motion and after giving an opportunity to be heard: (A) may order payment of the reasonable expenses, including attorney’s fees, caused by the failure; (B) may inform the jury of the party’s failure; and (C) may impose other appropriate sanctions. . . .” Id. “District courts are accorded broad discretion in determining whether a party’s nondisclosure or untimely disclosure of evidence is substantially justified or harmless.” Bresler v. Wilmington Tr. Co., 855 F.3d 178, 190 (4th Cir. 2017). In exercising this discretion, “a district court should be guided by the following factors: (1) the surprise to the party against whom the evidence would be offered; (2) the ability of that party to cure the surprise; (3) the extent to which allowing the evidence would disrupt the trial; (4) the importance of the evidence; and (5) the nondisclosing party’s explanation for its failure to disclose the evidence.” S. States, 318 F.3d at 597.

Applying the foregoing principles, the four expert declarations submitted in response to defendants’ Daubert motions are untimely supplemental expert reports. In filing the declarations, plaintiff does not identify any areas where in “material respect” the original expert reports or deposition responses were “incomplete or incorrect.” Fed. R. Civ. P. 26(e)(1). Nor did plaintiff file them “in a timely manner” following discovery of an error or omission in original report or deposition response. (Id.). Rather, plaintiff filed the declarations directly in response to the arguments raised by defendants’ counsel in defendants’ Daubert motions. Expert declarations made under such circumstances squarely contravene the language and purpose of Rule 26(e).

Plaintiff argues that the declarations are proper because they “do not raise new opinions.” (Pl’s Resp. (DE 169) at 5). This argument is self defeating. There are, indeed, portions of the declarations that are not new; in some parts, they repeat verbatim statements made in the original expert reports or terms referenced in deposition testimony. (E.g., compare Jones Rep. at 2-4 with Jones Decl. ¶¶ 7-15 (repeating background facts); compare Jones Dep. 144-145 (discussing facilities in “developing countries”) with Jones Decl. ¶ 17 (discussing facilities in “developing countries”); Boles Rep. at 6-7 with Boles Decl. (DE 150-2) ¶¶ 8-12; Brandwein-Weber Rep. at 2-3 with Brandwein-Weber Decl. (DE 149-2), Sec. II, ¶¶ 3-9, 15).⁹ In those respects, the declarations are redundant and unnecessary for resolution of any issues for decision in this case. In remaining part, the declarations are attempts to bolster the original expert reports and testimony in response to arguments raised in defendants’ Daubert motions. Plaintiff confirms as much by stating that the declarations were “necessary because of Defendants’ repeated mischaracterizations of Plaintiff’s expert opinions, and Defendants’ injection of irrelevant, red herring issues into this case, and specifically, in their motions to exclude.” (Pl’s Resp. (DE 169) at 1-2).

The parties debate at length about which portions of the declarations introduce new opinions versus clarifications, explanations, expansions, of opinions or statements made in original reports or depositions. For those portions that are not redundant of the original reports, the debate over characterization of the new material largely is inconsequential to the supplementation inquiry. The critical issue for purposes of the instant motion to strike, instead, is that the declarations are made

⁹ As with deposition transcripts, for citations to expert reports and declarations, the court specifies page numbers as indicated on the face of the document, or paragraph numbers, where available, rather than the page numbering specified in the document on the court’s ECF system.

in response to defendants' Daubert motions and are not made either timely or for a stated purpose of correcting inadvertent errors or omissions in the original reports or depositions.

In any event, while some of the new material in the declarations reasonably can be characterized as a clarification of original opinions, other new material reasonably can be characterized as opinions or information that could have been included in the original reports or in a timely made supplemental report.

For example, the original Brandwein-Weber expert report contained an opinion on causation and statement of reasons therefore comprised of the following:

Based on the intensity and duration of wood dust exposure, the latency period between exposure and diagnosis, published data by the International Agency for Research on Cancer/World Health Organization, and recent meta-analysis (Binazzi, 2015), it is very clear that wood-dust exposure is the cause of Mr. Lightfoot's ITAC. The histology of wood exposure-related sinonasal cancers are not limited to ITAC, however this phenotype represents the 'textbook' example of wood dust exposure mediated cancer.

(Brandwein-Weber Rep. at 3). In her declaration, Dr. Brandwein-Weber adds multiple detailed paragraphs explaining her "methodology for evaluating specific causation in a sinonasal adenocarcinoma patient" (Brandwein-Weber Decl., Sec. II, ¶¶ 1, 10-17), before further addressing in detail "specific responses to defendants' motion." (Id. ¶¶ 19-25). Even in that portion in response to defendants' motion, Dr. Brandwein-Weber adds opinions and information in further support of her conclusions on causation. For example, she cites to a "powerful study," being "[o]ne of the largest and most recent studies on softwood exposure," published in September 2017, in support of her opinion. (Id. ¶ 21). She discusses a "qualitative[]" exposure assessment in contrast to the "quantitative estimate" by Dr. Jones. (Id. ¶ 23).

Similarly, Dr. Jones and Dr. Boles add new discussion of a “qualitative” assessment of plaintiff’s exposure. (Jones Decl. ¶ 26; Boles Decl. ¶ 24). Dr. Aronson adds discussion of the September 2017 study on “softwood dust,” (Aronson Decl. ¶¶ 11, 14, 15), as well seven additional studies and two textbooks not cited in original report to support a general causation opinion for ITAC in particular, as opposed to all SNCs. (*Id.* ¶¶ 8, 18, 19). Each of these important additional topics could have been the subject of discussion in the original report or a timely supplemental report by the experts, rather than declarations in response to Daubert motions.

Plaintiff also argues, apparently in the alternative, that the declarations are timely supplemental disclosures because the deadline provided in the civil rules for supplementing expert disclosures has not yet passed. Plaintiff points to Rule 26(e), which requires supplemental expert disclosures to be made by the time of pretrial disclosures under Rule 26(a)(3), being 30 days before trial. This argument, however, does not overcome the problem that the declarations were made for the stated purpose of responding to Daubert motions. This argument also fails to take into account that the timeliness of a supplemental disclosure is not keyed solely to the deadline for pretrial disclosures, but rather keyed to the overall requirement that supplementation be made “in a timely manner.” Fed. R. Civ. P. 26(e)(1); *see S. States*, 318 F.3d at 596 (noting that supplementation is required “when the party learns of new information”) (emphasis added). This distinction is confirmed in the court’s case management order: “Counsel should bear in mind that seldom should anything be included in the final Rule 26(a)(3) pretrial disclosures that has not previously appeared in the initial Rule 26(a)(1) disclosures or a timely Rule 26(e) supplement thereto.” (DE 76 at 3 (emphasis added)). The court will discuss further below timing issues in addressing remedy.

In sum, those portions of the declarations that repeat the original reports or deposition testimony are redundant. Those portions that are new, improved, or expanded in response to defendants' arguments in Daubert motions, not merely correcting identified inadvertent errors or omissions, are not timely supplemental disclosures. The court determines next whether exclusion or other sanction is an appropriate remedy.

To determine whether the untimely supplemental disclosures are substantially justified or harmless, the court first considers "the surprise to the party against whom the evidence would be offered." S. States Rack And Fixture, Inc., 318 F.3d at 597. Here, defendants reasonably are surprised by the four expert declarations. Plaintiff forecasted no intention to supplement expert reports during the period of expert discovery to the extent now done, even though defendants' examination of plaintiff's experts in depositions, as well as defendants' own expert reports, raised numerous issues now identified in Daubert motions.

Regarding the second Souther States factor, ability to "cure the surprise," id., there are multiple considerations at issue. On the one hand, defendants are significantly hampered in their ability to cure because the discovery deadline has passed; defendants' experts based their own expert reports on plaintiff's experts' original expert reports and deposition testimony; defendants filed Daubert motions on the basis of plaintiff's experts' original expert reports and deposition testimony; and those motions now have been briefed fully. On the other hand, there is no trial date set, and the deadline for filing summary judgment motions is set for 30 days after the court rules upon the instant motions. Moreover, defendants have had an opportunity to address in their reply briefs the substance of plaintiff's experts' declarations.

At bottom, for defendants to cure the surprise of the declarations, defendants reasonably must be given the opportunity (if desired) to go back and supplement their own experts' reports, opportunity to conduct limited supplemental depositions of plaintiff's experts, and a mechanism in conjunction with summary judgment briefing for defendants to raise any issues arising therefrom that reasonably may alter the court's Daubert analysis. The court discusses further below allowance for such supplemental procedures to cure defendants' surprise.

With respect to the third Southern States factor, there is no disruption of trial, where trial has not been set. While defendants express concern with difficulties in cross-examining plaintiff's experts at trial, if any, due to multiple disclosures, plaintiff could have just as much or more difficulty in contending with such cross-examination for the same reason. In addition, the court will provide a mechanism at trial, if desired, to "inform the jury of [plaintiff's] failure" to timely disclose the materials in the four expert declarations. Fed. R. Civ. P. 37(c)(1)(B).

Regarding the fourth Southern States factor, the four expert declarations in substance are important because they address gaps and issues in the original reports critical to the relevance and reliability of the experts' opinions in this case. While they were not timely disclosed, the declarations provide a more detailed and complete presentation of the opinions of plaintiff's experts than the original reports and depositions alone. Striking the expert declarations at this juncture would undermine full and fair determination of the merits of the issues presented by this case.

Finally, the court considers plaintiff's explanation for his failure to disclose the evidence. Southern States, 318 F.3d at 597. Plaintiff contends that he had no reason to offer the declarations until defendants advanced faulty arguments in support of their Daubert motions, by "mischaracterizing the expert testimony," raising "inapposite scientific literature," and raising

arguments not advanced during depositions. (Pl's Resp. (DE 169) at 18). As an initial matter, if defendants' arguments were all faulty as plaintiff contends, then plaintiff ought to have been able to rely upon the original expert reports and deposition testimony to defeat them. In reality, despite plaintiff's characterization to the contrary, the original expert reports in some respects needed additional explanation and details, as well as updated supporting materials, to provide a complete record of the grounds for the experts' opinions. See Fed. R. Civ. P. 26(a)(2)(B). In sum, plaintiff does not offer substantial justification for the failure to disclose previously the information provided in the expert declarations.

Upon consideration of the foregoing Southern States factors, the court in its discretion determines that exclusion of the expert declarations is not warranted. Rather, upon a balance of the factors, including consideration of available alternative sanctions and allowance for opportunity to cure, the court finds that late disclosure of the material in the expert declarations is harmless, even though not substantially justified. As suggested herein, the court finds that limited reopening of expert discovery to allow defendants an opportunity to cure, as well as a sanction for the late disclosure is warranted.

With respect to reopening of discovery and deadline for summary judgment briefing, the court directs the parties to confer and file joint notice (or separate notices if necessary) proposing a period of limited additional expert discovery to allow defendants time (if desired) to amend or supplement their own experts' reports and to conduct limited supplemental depositions of plaintiff's experts. In addition, the parties shall propose a new deadline for summary judgment briefing. The court expands page limitations by five pages for summary judgment briefing in order to

accommodate discussion of additional issues, if desired, arising from supplemental expert discovery provided they can be framed in the context of the summary judgment standards.

Given the lack of substantial justification, as well as the considerable effort required to brief the issue of exclusion and to cure the late disclosure, it is appropriate to shift the attorney's fee expense of briefing on the motion to exclude to plaintiff. Because the court must not impose such alternative sanctions until "after giving an opportunity to be heard," Fed. R. Civ. P. 37(c), the court first directs defendants to file within 30 days of the date of this order a notice setting forth an itemized statement of reasonable attorney's fees and costs associated exclusively with briefing on the motion to exclude. Within 14 days of filing thereof, plaintiff may file a response addressed to the propriety of such sanctions and the amount thereof. Defendants may file a reply within 7 days thereof. Thereupon, the court will enter such final order as is warranted on the issue of sanctions.

In conclusion as to the instant motion, the court denies defendant's motion to exclude but awards alternative sanctions and relief as set forth herein.

B. Daubert Motions

1. Standard of Review

Federal Rule of Evidence 702 governs the admissibility of expert opinion testimony. Under Rule 702, expert testimony is appropriate when "the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. A witness qualified as an expert may be permitted to testify where "(b) the testimony is based upon sufficient facts or data, (c) the testimony is the product of reliable principles and methods, and (d) the expert has reliably applied the principles and methods to the facts of the case." Id.

Rule 702 imposes a “basic gatekeeping obligation” upon a trial judge to “ensure that any and all scientific testimony is not only relevant, but reliable.” Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147 (1999); Daubert, 509 U.S. at 592-93. “The proponent of the testimony must establish its admissibility by a preponderance of proof.” Cooper v. Smith & Nephew, Inc., 259 F.3d 194, 199 (4th Cir. 2001).

“[R]elevance – or what has been called ‘fit’ – is a precondition for the admissibility of expert testimony, in that the rules of evidence require expert opinions to assist the ‘the trier of fact to understand the evidence or to determine a fact in issue.’” United States v. Ancient Coin Collectors Guild, 899 F.3d 295, 318 (4th Cir. 2018) (quoting Daubert, 509 U.S. at 597). The court must determine whether the expert’s “reasoning or methodology properly can be applied to the facts in issue.” Daubert, 509 U.S. at 592–93).

The reliability inquiry is a “flexible one focusing on the principles and methodology employed by the expert, not on the conclusions reached.” Westberry v. Gislaved Gummi AB, 178 F.3d 257, 261 (4th Cir. 1999) (internal quotations omitted). In assessing whether expert testimony is “reliable,” the court may consider:

(1) whether a theory or technique can be (and has been) tested; (2) whether the theory has been subjected to peer review and publication; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the techniques’ operation; and (5) whether the technique has received general acceptance within the relevant scientific or expert community.

United State v. Crisp, 324 F.3d 261, 266 (4th Cir. 2003) (internal quotations omitted). These factors are “neither definitive, nor exhaustive,” and “particular factors may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert’s particular expertise, and the subject of [her] testimony.” Cooper, 259 F.3d at 199–200. “[T]he court has broad latitude to

consider whatever factors bearing on validity that the court finds to be useful[,] ... depend[ing] upon the unique circumstances of the expert testimony involved.” Westberry, 178 F.3d at 261. The decision whether to hold an evidentiary hearing on a Daubert motion is within the discretion of the court. See United States v. Beasley, 495 F.3d 142, 150 (4th Cir. 2007).

2. Analysis

a. Dr. Aronson

As noted above, Dr. Aronson provides an opinion on “general causation,” (Aronson Rep. at 1), including that “[t]here is strong, consistent and valid scientific evidence that exposure to wood dust causes paranasal sinus cancer risk, and particularly high risks for adenocarcinomas in relation to wood dust exposure.” (Id. at 6). She states that “[t]his general causation is not limited to any particular type of wood dust, nor to a specific pathology of the disease.” (Id. at 1).

Dr. Aronson’s opinion meets the requirements of relevance and reliability. First, with respect to relevance, her opinion will assist “the trier of fact to understand the evidence or to determine a fact in issue.” Daubert, 509 U.S. at 597. In a case involving a claim that a particular substance caused a plaintiff’s illness, a plaintiff must first establish “general causation,” i.e., that the substance is capable of causing the illness or an “increased risk” of the illness. In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prod. Liab. Litig. (No II) MDL 2502, 892 F.3d 624, 638 (4th Cir. 2018); see also Federal Judicial Center & National Academies of Science, Reference Manual on Scientific Evidence (3d Ed. 2011) (hereinafter “RMSE”) 24 (“[G]eneral causation . . . [is] that the defendant’s product can cause the adverse effects for which plaintiffs seek compensation.”). In this case, where plaintiff claims that exposure to wood dust from defendants’ products caused his cancer, (see Compl. ¶ 19), it is thus relevant that Dr. Aronson opines that

“exposure to wood dust causes paranasal sinus cancer risk, and particularly high risks for adenocarcinomas.” (Aronson Rep. at 6).

Dr. Aronson’s opinion also is reliable, in light of the established “principles and methodology” she employs. Westberry, 178 F.3d at 261. In particular, to determine general causation, Dr. Aronson analyzes “epidemiologic studies” (Aronson Rep. at 1), which are studies that “examine the pattern of disease in human populations,” Gen. Elec. Co. v. Joiner, 522 U.S. 136, 144-145 (1997), a widely recognized technique for determining general causation. See In re Lipitor, 892 F.3d at 638. Further, in analyzing such epidemiologic studies, Dr. Aronson applies the “Bradford-Hill’s criteria” (Aronson Rep. at 1), which “are a series of factors used by epidemiologists to determine whether an observed association between two variables is causal.” In re Lipitor, 892 F.3d at 638 (citing RMSE 599-600). “Those factors include temporal relationship, strength of the association, dose-response relationship, replication of the findings, biological plausibility, consideration of alternative explanations, cessation of exposure, specificity of the association, and consistency with other knowledge.” Id.; see RMSE 600.

Furthermore, unlike in some cases in which courts have found expert opinions on general causation unreliable, Dr. Aronson does not depend upon “selectively choos[ing]” studies or “cherry-pick[ing]” only the most supportive studies, e.g., In re Lipitor, 892 F.3d at 634; Yates, 113 F.Supp. at 858, but rather a wide range of studies, including a monograph of the International Agency for Research on Cancer (IARC), which has published evaluations of the evidence of wood dust carcinogenicity in 1981, 1995, and 2012. In the 2012 IARC study, upon which Dr. Aronson “heavily relied,” IARC concluded, based upon a “synthesis” of studies worldwide: “Wood dust

causes cancer of the nasal cavity and paranasal sinuses.” (Dr. Aronson Rep. (DE 137-2) at 2; IARC Monograph 100C (2012) (DE 137-6) at 443 & 459).

In sum, where Dr. Aronson has employed a technique that has “received general acceptance within the relevant scientific or expert community,” where the subject of her opinion “has been subjected to peer review and publication,” and where factors impacting “potential rate of error” and “standards controlling the technique[’s] operation” have been discussed, Crisp, 324 F.3d at 266, the Daubert factors favor admission of her testimony regarding her opinion on general causation.

Defendants argue that Dr. Aronson’s opinion is unreliable because it does not reach a causation conclusion specifically as to ITAC, but rather only as to sinonasal cancer generally. As explained by Dr. Aronson, however, and as confirmed by the sources she cites, ITAC is a subtype of nasal adenocarcinoma, which in turn is a subtype of sinonasal cancer. (Aronson Rep. at 2; Aronson Decl. ¶¶ 17-19). In addition, where Dr. Aronson, and plaintiff’s other experts, rely upon studies showing a stronger causal connection between wood dust and adenocarcinoma, but not with other types of nasal cancer, then the fact that ITAC is a subtype of adenocarcinoma rather than some other type of nasal cancer strengthens rather than weakens Dr. Aronson’s general causation opinion. (See, e.g., id.; 2012 IARC monograph (DE 137-6) at 415 (stating association with squamous cell carcinoma was “much weaker than was observed with adenocarcinoma”); 2017 Siew study (DE 151-1) at 3) (identifying “elevated risk in nasal adenocarcinoma but not with other types of nasal cancer”); 2007 Leivo study (DE 135-11) at 38-39; Boles Rep.(DE 144) at 1-2). Moreover, consistent with the foregoing, Dr. Aronson further refines her opinion in her declaration to reach a general causation opinion as to ITAC. (Aronson Decl. ¶¶ 17-20).

Defendants next argue that Dr. Aronson's opinion is unreliable because it does not adequately address whether softwood dust, as opposed to wood dust generally, causes ITAC. This argument is unavailing for several reasons. First it is based upon the flawed premise that "the only type of wood dust relevant to this case is softwood dust." (Defs' Mem. (DE 137) at 6). In reaching this premise, defendants draw inferences from the underlying facts in the light most favorable to them, rather than in the light most favorable to plaintiff, as is required at this stage of the proceedings. See Gen. Elec. Co., 522 U.S. at 147; see also id. at 152 (Breyer, J., concurring). When viewed in the light most favorable to plaintiff, it is reasonable to infer that plaintiff was exposed to some hardwood dust in addition to softwood dust. Wood used in the shop was "mostly" pine, (T. Lightfoot Dep. 69, 76), but also "some oak" (Id. 71, 74, 81), and "plywood," (Id. 72), which may be composed of hardwoods and softwoods. (See, e.g., Material Safety Data Sheet (DE 151-3) at 4). The entertainment center was constructed of birch and plywood. (Id.; Pl's Dep. 275). The vegetable bins, produced at a rate of 30 to 50 per year, were constructed of "mainly pine" but also birch "from time to time." (Pl's Dep. 243).

Second, the 2012 IARC monograph, upon which Dr. Aronson relies in her report, states broadly that "[t]here is sufficient evidence in humans for the carcinogenicity of wood dust," that "[w]ood dust causes cancer of the . . . paranasal sinuses," and that "[w]ood dust is carcinogenic to humans." (DE 137-6 at 459). Defendants contend the monograph is more limited because it notes studies that assess "small" risk from softwoods "in comparison to hardwoods," but this is in the context of paragraph that states the "great majority of studies did not report on the specific tree species." (Id. at 449). Moreover, Dr. Aronson offers an interpretation of the monograph based upon her own extensive experience publishing and evaluating epidemiological studies, and

participation on IARC working group committees that construct monographs. (Aronson Decl. ¶¶ 5-9). Despite defendants’ argument to the contrary, Dr. Aronson thus is qualified to interpret the 2012 IARC monograph and such interpretation is helpful to determining the issue of general causation in this case.

Third, the 2017 Siew study upon which Dr. Aronson relies in her declaration, (id. ¶ 15), supports a general causation opinion based solely upon softwood dust exposure. Indeed it states: “Lifelong low-level exposure to softwood-dominated mixed wood dusts is strongly linked with elevated risk in nasal adenocarcinoma. . . .” (Id. Ex. 3 (DE 151-1) at 3). Although defendants attempt in their brief to point to features that undercut the significance of this study, their argument at this point is one of degree and not a basis for discounting the study or excluding Dr. Aronson. For example, defendants note that the study authors recognized that “future research on whether softwood dust alone increase[s] risk of nasal adenocarcinoma . . . is warranted.” (Id. at 15). Contrary to defendants’ argument, however, this is not equivalent to a study that “merely ‘supports the need for comprehensive additional studies.’” (Defs’ Reply (DE 161) at 6 (quoting Kilpatrick v. Breg, Inc., 613 F.3d 1329, 1340 (11th Cir. 2010) (emphasis added))). As the Siew study itself states, the “Key Message” is its conclusion above concerning the strong link between softwood-dominated dusts and adenocarcinoma. (Id. Ex. 3 (DE 151-1) at 3).

Defendants also argue that Dr. Aronson’s opinion is unreliable because she does not establish a “threshold level” at which exposure to wood dust can cause ITAC. (Defs’ Reply (DE 161) at 1, 5-7). Dr. Aronson does not offer an opinion on a specific “threshold level” for exposure and she suggests that this falls outside of her role as an expert on general causation. (Aronson Decl. ¶ 16). Dr. Aronson instead discusses the epidemiologic factor of “dose-response,” (id.; Aronson Rep. (DE

137-2) at 1, 3-4), which is one of many factors considered in the context of a general causation analysis. See In re Lipitor, 892 F.3d at 638; RMSE 24, 600. In this respect, Dr. Aronson discusses “meta-analyses” and studies that show increasing risks of adenocarcinoma with increased exposure. (id.; Aronson Rep. (DE 137-2) at 3-4). As such, the court does not consider Dr. Aronson properly to be offering an opinion on a “threshold level” of exposure, but rather more aptly including discussion of dose-response factor in her analysis. The court leaves for additional analysis of the “threshold level” concept in discussion of plaintiff’s experts who opine on “specific causation.”¹⁰

A similar approach follows for defendants’ contention that Dr. Aronson failed to consider “idiopathic” cause of ITAC. Dr. Aronson does not opine on idiopathic cause. Discussion of idiopathic cause, however, is not required for a general causation analysis. More pertinent is “consideration of alternative explanations,” In re Lipitor, 892 F.3d at 638; RMSE 600, which analysis Dr. Aronson engaged in here. (See Aronson Rep. at 4). The court addresses further herein idiopathic cause in conjunction with opinions of Drs. Brandwein-Weber and Boles, below.

Based on the foregoing, the Daubert factors favor admission of Dr. Aronson’s testimony regarding her opinion on general causation.

b. Dr. Jones

Dr. Jones provides opinions on the level of plaintiff’s “exposures . . . to wood dust,” and on “hazard communications” provided by defendants. (Jones Rep. (DE 141-9) at 1, 12). The court addresses below in turn the relevance and reliability of each category of opinions.

¹⁰ The court also leaves for later discussion defendants’ argument that plaintiff’s expert opinions are unreliable because they do not offer a conclusion about whether exposure to either or both of defendants’ products, separately or together, meets a threshold “significant” or “substantial” level.

i. Exposure opinions

Dr. Jones's exposure opinions, which are in the form of both quantitative assessments and qualitative assessments, are both relevant and reliable in accordance with Daubert. First, with respect to relevance, her opinions will assist the trier of fact in determining the amount of wood dust exposure plaintiff experienced from defendants' products. Plaintiff's actual "levels of exposure" are relevant to determining causation for products liability claims such as those asserted in the instant case. Westberry, 178 F.3d at 264.

Dr. Jones's opinions also are reliable, in light of the established "principles and methodology" she employs. Westberry, 178 F.3d at 261. Although the Fourth Circuit has recognized that "it is often difficult, if not impossible, to quantify the amount of exposure," In re Lipitor, 892 F.3d at 638, Dr. Jones undertakes such a quantitative assessment in the instant case. In addition, in her supplemental report she provides an assessment that there has been a "substantial exposure" in this case, which is also a recognized basis for an exposure opinion. See id.; Westberry, 178 F.3d at 261.

To quantify plaintiff's exposure, Dr. Jones "used the generally accepted method of compiling task-based data available in peer reviewed studies and applied that data to [plaintiff's] activities." (Jones Decl. (DE 152-1) ¶ 18). This approach is not novel. See, e.g., RMSE 526, 539. Indeed defendants' expert, Ms. Sahmel, employs a similar approach of using exposure examples from peer review studies to estimate plaintiff's level of exposure, albeit using different assumptions and variables. (See Sahmel Rep. (DE 145 Ex. L) 33-35). There is not thus presented a problem with the technique's "general acceptance within the relevant scientific or expert community." Crisp, 324 F.3d at 266.

Defendants argue that Dr. Jones's opinion is unreliable because Dr. Jones uses occupational exposure circumstances rather than hobby exposure circumstances as examples for comparison to plaintiff's wood shop. This argument misses the mark for several reasons. First, Dr. Jones provides good reasons for using the studies she employs as comparisons. For example, in her report, she states:

Many of the exposure assessments were conducted in commercial industrial facilities, which are larger and more likely to have ventilation systems and automation than the Lightfoot woodshop. Ventilation and automation would tend to lower wood dust exposures relative to that in the Lightfoot woodshop, but high production rates would tend to elevate exposures relative to that in the Lightfoot woodshop. While small-scale facilities in developing countries did, like the Lightfoot woodshop, not have dust control systems, unlike the Lightfoot woodshop, the facilities were not enclosed. Enclosed buildings would tend to increase dust exposures relative to open buildings because ventilation is not provided by wind. None of the conditions in published exposure studies (Tables 2-4) are the same as the conditions in the Lightfoot woodshop, though in general study sites lacking mechanical ventilation and automation would be more relevant.

(Jones Rep. at 5). In her declaration, she further explains: "The best industrial hygiene practice is to consult different studies that match as closely as possible to those conditions and activities performed in the Lightfoot workshop. As a result, I identified studies that provided data about exposures to wood dust during performance of tasks and under conditions similar to those of Mr. Lightfoot." (Jones Decl. ¶ 16).

Second, in criticizing Dr. Jones's selection of studies, defendants do not draw inferences from the underlying facts in the light most favorable to plaintiff. For example, defendants suggest that Dr. Jones should have used comparisons with a "home hobby woodshop" or studies involving "hobby exposures" rather than studies in "an occupational or industrial setting." (Defs' Mem. (DE 141) at 16; Reply (DE 162) at 8). This argument, however, assumes that plaintiff's wood shop properly should be equated with a "hobby woodshop" as opposed to the types of environments Dr.

Jones used in her comparisons. Drawing all inferences from the underlying facts in the light most favorable to plaintiff, the wood shop here produced a high volume of items, with low ventilation and a variety of working tools: It produced 15 to 20 picnic tables per year; 30 to 50 vegetable bins per year; 30 to 50 trash cans per year; and four to five swings per year, (see Pl’s Dep. 258-260, 296), for sale by plaintiff’s father to the public. (Id. 231, 240-241, 388-389); and this was in addition to multiple types of projects produced in the wood shop for plaintiff’s family. (Id. 271-275, 283-287). Accepting these facts as true, this rate of production, for financial gain, is not reasonably equated to a mere “hobby” exposure as defendants suggest. Defendants put the cart before the horse: they start with the self-supporting assumption and label that plaintiff’s shop was a “hobby” shop and draw inferences from that characterization, rather than starting with the actual facts of production and remuneration for a point of comparison.

Third, and relatedly, the report of defendants’ own expert on exposure, Ms. Sahmel, illustrates the subjective nature of the process for selecting comparison studies. For example, Ms. Sahmel selected studies for comparison “if they were known to be small workshops or classroom settings” (Sahmel Rep. 34), and she assumed that “the types of wood projects that Mr. Lightfoot and his father described in their testimony (i.e., picnic tables, vegetable bins) were not characteristic of a shop that built furniture, cabinets, or other similar types of products that would often have required a much higher level of finish (in terms of time) in terms of sanding and sawing or cutting.” (Id. at 35).

These statements are not made with inferences drawn in favor of plaintiff and are in fact in some respects directly contrary to the allegations made. For example, after plaintiff and his father built vegetable bins, his plaintiff’s father would instruct plaintiff: “Okay . . . I need you to sand them,

to make them nice and smooth,” and it is reasonable to infer this process would repeat with vegetable bins 30 to 50 times per year, at least from plaintiff’s fifth grade year until junior year. (Pl’s Dep. 243) (emphasis added).¹¹ It is notable too that such vegetable bins were sometimes constructed of hardwood birch wood. (*Id.*). Working conditions in the shop were such that plaintiff’s father would come in after time in the shop with “a bad taste” in his mouth from the wood dust. (T. Lightfoot Dep. 90). Similar intensive sanding personally by plaintiff was involved with the trash bins, picnic tables, and swings produced in the wood shop. (Pl’s Dep. 257, 261, 290, 296). Indeed, it can be reasonably inferred that sanding items “smooth” was a common task reserved to plaintiff from a young age; he wore no mask; and when sanding inside he had inadequate ventilation and hygiene practices. (T. Lightfoot Dep. 48-51, 63, 78-79, 91; Lightfoot Dep. 133, 215-217, 268, 397). Sawing also was done in some instances “to cut it nice and smooth.” (T. Lightfoot Dep. 132). In light of these allegations, Dr. Jones’s inferences about giving more weight to sanding tasks than cleaning and cutting tasks, as well as similarity with fine finishing tasks in furniture plants, (e.g., Jones Rep. at 10-11), are more defensible than Dr. Sahmel’s assumptions about the lack of finish of products in the wood shop. (Sahmel Rep. at 35, 38).

While defendants criticize criteria used by Dr. Jones for reviewing and selecting studies, as well as her omission of variables such as time spent working outside, study selection by Ms. Sahmel is equally open to criticism or difference of opinion, based upon inferences drawn. For example, Ms. Sahmel excludes from her analysis two studies, Ayalew (2015) and Rongo (2004), that Dr. Jones included, which involved a work environment of “small and medium wood-processing shops” and “small woodworking industries,” on the basis that “study not conducted in industrialized nation

¹¹ It is plausible to infer plaintiff sanded at an even earlier age, where he used a “little” electric sander. (Lightfoot Dep. 133).

with possibly substantial differences between equipment in these facilities and Mr. Lightfoot's wood shop." (Sahmel Rep. 37) (emphasis added). Ms. Sahmel also excluded a study that Dr. Jones included, Bohadana (2000), on the basis that the facility was too large and involved "likely substantial differences between work characteristics of these facilities and Mr. Lightfoot's (i.e., fine wood working vs. picnic tables and vegetable bins)." (Id. 53) (emphasis added). In light of the facts of this case as described above, however, involving high number of pieces produced with intensive sanding by plaintiff, under poor ventilation and hygiene controls, these reasons for exclusion are not only speculative but draw inferences contrary to those reasonable based upon the underlying facts in this case. Indeed, Dr. Jones aptly noted in her report that "small-scale facilities in developing countries . . . were not enclosed," thus encompassing both plaintiff's inside and outside work. (Jones Rep. 5).

This is not to say that every study chosen by Dr. Jones is unassailable, but rather that defendants' suggestion that Ms. Sahmel certainly has used the best comparison studies and Dr. Jones' has not is unwarranted. The selection of studies for comparison is important because it determines the "geometric mean" or "central tendency," which in turn is used by both Dr. Jones and Ms. Sahmel as a multiplier against the total number of hours estimated of wood exposure. (Sahmel Rep. 68; Jones Rep. 11).

For example, Dr. Sahmel calculates a "central tendency" concentration of 2.69 mg/m³, used as a multiplier of nearly 10,000 hours of personal woodworking activities by plaintiff, which results in cumulative exposure of approximately 13.2 mg/m³ work years. (Sahmel Rep. 68, 76). Dr. Jones calculates a "mean" concentration of 7.88 mg/m³ for a similar period of 9,360 hours, resulting in cumulative exposure of approximately 36.9 mg/m³ work years. (Jones Rep. 11-12). If Dr. Sahmel

swapped three studies she used with the three excluded studies noted above, providing “central tendency” ranges from 4.16 - 9.72, 2.43-7.86, and 3-25, mg/m³ respectively, (Sahmel Rep. 37-38, 56), this would suggest a much higher average “central tendency” than the 2.69 mg/m³ chosen, possibly near the 7.88 mg/m³ used by Dr. Jones, if not more. This illustrates the wide range of possible exposure estimates that can result from variations in comparison studies used.

Defendants argue that Dr. Jones’s opinion is flawed because it does not take into account several categories of time where plaintiff was not working in the wood shop. As the above analysis demonstrates, and as Dr. Jones confirms, “the corresponding adjustment would be so slight it would not be meaningful,” (Jones Decl. ¶ 43), where the critical component of the exposure analysis is the determination of the “mean” or “central tendency” multiplier through comparison studies. Where both Dr. Jones and Ms. Sahmel estimate the number of hours personally worked by plaintiff in the wood shop around 10,000 hours, Dr. Jones reasonably could adopt a lower amount of hours but still arrive at a substantial exposure estimate.¹² This fact alone also supports Dr. Jones’s opinion, that “[f]rom a qualitative standpoint” plaintiff’s exposures “equate to those seen in occupational studies.” (Jones Decl. ¶ 26).

Defendants also argue that Dr. Jones’s opinion is unreliable because it does not take into account differences between hardwood dust and softwood dust exposure, as well as differences between Weyerhaeuser and Georgia Pacific products. (Supp. Mem. (DE 158) at 1-3; Reply (DE 162) at 9-13; see Sahmel Rep. 77-82). The court considers this argument, however, more properly as an issue of relevance than an issue of reliability. In light of the court’s assessment the

¹² This does not even include wood dust exposure plaintiff experienced while cleaning, particularly between ages 6 - 9, which Dr. Sahmel estimates at 600 hours and Dr. Jones estimates at 1,040 hours. (Jones Rep. 12; Sahmel Rep. 76).

hardwood/softwood distinction in Dr. Aronson’s general causation opinion, and drawing facts in the light most favorable to plaintiff, Dr. Jones’s opinion encompassing all of plaintiff’s wood dust exposures is relevant in this case. The court also notes that both Ms. Sahmel and Dr. Jones cite to the deposition testimony of Georgia-Pacific representative Duane Hughes, but such deposition is not in the record. (Jones Rep. 3; Sahmel Rep. 7, 79). The court leaves for later determination, upon a more complete record, the issue whether plaintiff has sufficiently demonstrated a genuine issue of material fact as to the respective responsibility and duties of defendants Weyerhaeuser and Georgia Pacific in supplying wood for plaintiff’s wood shop.

In sum, Dr. Jones’s exposure opinion is relevant and reliable, and exclusion of Dr. Jones’s testimony thereon is not warranted.

ii. Hazard communication opinions

Dr. Jones makes a variety of statements in her reports regarding “hazard communications expectations,” “hazard identification and communication” by defendants, and plaintiff’s “knowledge of wood dust hazard,” (Jones Rep. 12-14; Jones Supp. Rep. 4-5), which defendants contend are opinions that must be excluded on the basis that Dr. Jones is not qualified to make them, they are not relevant, and they are not reliable.

A witness may qualify to render expert opinions in any one of the five ways listed in Rule 702: knowledge, skill, experience, training, or education. Kumho Tire, 526 U.S. at 147. When an expert’s qualifications are challenged, “the test for exclusion is a strict one, and the purported expert must have neither satisfactory knowledge, skill, experience, training nor education on the issue for which the opinion is proffered.” Kopf v. Skyrn, 993 F.2d 374, 377 (4th Cir. 1993)(quoting Thomas J. Kline, Inc. v. Lorillard, Inc., 878 F.2d 791, 799 (4th Cir.1989)); see SAS Inst., Inc. v. World

Programming Ltd., 125 F. Supp. 3d 579, 584–85 (E.D.N.C. 2015). “One knowledgeable about a particular subject need not be precisely informed about all details of the issues raised in order to offer an opinion.” Kopf, 993 F.3d at 377 (quotations omitted). “The expert may testify in the form of an opinion or otherwise.” Id. (quotations omitted). “An expert on the stand may give a dissertation or exposition of scientific or other principles relevant to the case, leaving the trier of fact to apply them to the facts.” Id. at 378 (quoting Rule 702 advisory committee’s note)).

“[A]n expert witness must possess some specialized knowledge or skill or education that is not in the possession of the jurors.” United States v. Perkins, 470 F.3d 150, 155-56 (4th Cir. 2006). “Rule 702 makes inadmissible expert testimony as to a matter which obviously is within the common knowledge of the jurors, because such testimony, almost by definition, can be of no assistance.” Scott v. Sears, Roebuck & Co., 789 F.2d 1052, 1055 (4th Cir. 1986). Rather, the opinion must be a product of the expert’s expertise. See Perkins, 470 F.3d at 155-56. Thus, where a person with no special skill or experience can draw the same conclusion as the proffered expert after only brief exposure to the relevant evidence, the expert’s opinion must be excluded as unhelpful. See SMD Software, Inc. v. EMove, Inc., 945 F. Supp. 2d 628, 640 (E.D.N.C. 2013).

Here, a threshold challenge presented by the motion and Dr. Jones’s reports is identification of the “opinion” being offered and, provided one is offered, the “issue for which the opinion is proffered.” Kopf, 993 F.2d at 378. Several statements in Dr. Jones’s expert report regarding “hazard communications” are not properly considered expert opinions but rather lay comments about what is not in the evidence, including the following statements:

- 1) “There is no evidence that MSDSs about wood products were provided to Mr. Thomas Lightfoot as part of his work at Weyerhaeuser or when he purchased wood materials at Lowe’s or other hardware stores.” (Jones Rep. 13; see id. at 14(similar)).
- 2) “I did not find evidence that [plaintiff] or Mr. Thomas Lightfoot was aware of the ability of wood dust to cause sinonasal cancer.” (Id. at 14; see id. at 13 (similar)).
- 3) “There is no evidence that Georgia Pacific considered the carcinogenicity of wood dust at any time.” (Id.).
- 4) “There is no indication that Georgia Pacific products were accompanied by an MSDS or other health warnings . . . ; they may have been available upon customer (e.g., Lowe’s) request.” (Id. at 13).

Determination of the facts from the evidence in this case is a task reserved to the jury, and Dr. Jones’s statements commenting on the evidence in these portions of her report are not helpful to the jury and are likely to mislead. While an expert is permitted to describe the facts upon which an opinion is based, the Federal Rules of Evidence “do[] not afford the expert unlimited license to testify or present . . . in a manner that simply summarizes the testimony of others without first relating that testimony to some ‘specialized knowledge’ on the expert’s part as required under Rule 702 of the Federal Rules of Evidence.” United States v. Johnson, 54 F.3d 1150, 1157 (4th Cir. 1995). Because the aforementioned statements are not so related to specialized knowledge, but rather engage in fact finding that any juror is qualified to do, the aforementioned statements must be excluded. In this part, defendants’ motion to exclude testimony of Dr. Jones is granted.

This is not to say that all testimony by Dr. Jones on “hazard communications,” as previewed in her reports, must be excluded for lack of relevance or qualification. For example, Dr. Jones

describes and interprets the “federal Hazard Communication Standard” and statements by government agencies and other organizations, such as Occupational Safety and Health Administration (“OSHA”) and IARC, regarding wood dust (Jones Rep. 12-13; 13-14; Jones Supp. Rep. 5). These descriptive and interpretive statements are in the nature of “a dissertation or exposition of scientific or other principles relevant to the case,” which may be left to the trier of fact to apply to the facts of the case. Kopf, 993 F.3d at 378. Dr. Jones is qualified by her education and experience in the areas of industrial hygiene and public health (see Jones Decl. ¶¶ 2-4) to describe and interpret occupational safety and health standards and statements issued by organizations concerning the hazards of wood dust. Cf. Hickerson v. Yamaha Motor Corp., 882 F.3d 476, 479 (4th Cir. 2018) (noting expert “qualified to testify as an expert on [Personal Watercraft] warnings and design based on his relevant experience in engineering, forensic analysis, and warnings testimony”). As such, Dr. Jones’s testimony thereon is not necessarily subject to exclusion on the basis of lack of experience or relevance.

Nevertheless, problems of relevance and reliability arise where Dr. Jones makes suggestions as to the adequacy of what defendants communicated or did not communicate to plaintiff and plaintiff’s father. In this area, the parties have not provided context of the legal issues that may be informed by such statements, see, e.g., Hickerson, 882 F.3d at 481-483 (examining warnings expert testimony in conjunction with summary judgment determination), and thus it is not feasible for the court to determine at this juncture whether the statements are in the nature of opinions and whether they are relevant and reliable. Examples of such statements include the following:

- 1) “Weyerhaeuser . . . did not acknowledge the carcinogenicity of wood dust until 1995
In my opinion, this is a passive and irresponsible response to mounting evidence of the carcinogenicity of wood dust.” (Jones Supp. Rep. at 5) (emphasis added).
- 2) “[T]he Lightfoot’s were unable to make informed decisions about their exposures to wood dust.” (Jones Rep. at 14).
- 3) “Georgia Pacific should have been aware of the carcinogenicity of wood dust in the late 1980s.” (Id.) (emphasis added).
- 4) “[A] material safety data sheet should have been available to [Mr. Thomas Lightfoot] in a place where he could access it easily at his workplace, and . . . he should have been trained to understand how to read and interpret a material safety data sheet.” (Id.) (emphasis added).
- 5) “Georgia Pacific was not responsive to evidence of wood dusts’ carcinogenicity.” (Id.) (emphasis added).

Although not stated specifically in her expert report, plaintiff also forecasts in briefing that Dr. Jones will testify “as to what warnings should have been provided”; that “warnings were necessary”; and there was a “need to provide a warning regarding wood dust exposure.” (Pl’s Br. (DE 152) at 16-17) (emphasis added).

Defendants have forecasted that they intend to raise summary judgment arguments based upon the issue of defendants’ “duty” towards plaintiff and “state-of-the-art.” (See DE 117, 122, 131, 132). Accordingly the court denies defendants’ motion to exclude Dr. Jones’s “hazard communication” opinions in this part, without prejudice to defendants again raising arguments in favor of exclusion of Dr. Jones’s “hazard communication” opinions in the context of a more complete record and discussion of the applicable legal issues.

In sum, defendants' motion to exclude Dr. Jones's testimony is granted in part and denied in part as set forth herein.

c. Drs. Brandwein-Weber and Boles

As noted above, Drs. Brandwein-Weber and Boles both offer opinions on "specific causation," particularly that wood dust exposure is the cause of plaintiff's ITAC. (Brandwein-Weber Rep. at 3; Boles Rep. at 7). In the course of discussing that opinion, they also offer opinions on general causation, consistent with Dr. Aronson's opinion, and a "qualitative" opinion that plaintiff's exposures are "substantial" and "significant." (Brandwein-Weber Decl., Sec. II, ¶¶ 2, 17, 20-21, 23; Boles Rep. at 2-6; Boles Decl. ¶¶ 24, 32-33, 37).

The "specific causation" opinions of Drs. Brandwein-Weber and Boles are relevant and reliable. "For specific causation, the plaintiff must demonstrate that the substance actually caused injury in [his] particular case." In re Lipitor, 892 F.3d at 642. The opinions of Drs. Brandwein-Weber and Boles that wood dust caused plaintiff's injury in this case are thus relevant. Their opinions are also reliable, where they properly employ a standard "differential diagnosis" technique, which involves "identifying the cause of a medical problem by eliminating the likely causes until the most probable one is isolated." Id. at 643 (quoting Westberry, 178 F.3d at 262).

"Such an analysis is accomplished by 'determining the possible causes for the patient's symptoms and then eliminating each of these potential causes until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely.'" Id. (quoting Westberry, 178 F.3d at 262). "Although a reliable differential diagnosis need not rule out all possible alternative causes, it must at least consider other factors that could have been the sole cause

of the plaintiff's injury." Id. (quoting Guinn v. AstraZeneca Pharm. LP, 602 F.3d 1245, 1253 (11th Cir. 2010)).

Drs. Brandwein-Weber and Boles have completed such an analysis here. For example, Dr. Brandwein-Weber explains:

When evaluating whether an individual's exposure to one or more chemicals has played a substantial contributing factor in the development of their disease, it is important to gather as much information as possible regarding the person's exposure to the chemicals of interest. In addition, a scientist investigating specific causation should . . . identify any other risk factors for the disease. Such other risk factors include: exposures to chemicals from background, environmental, occupational, or hobby-related sources, family history of similar disease, and other factors predisposing the person to develop the disease, such as age, race, or suppressed immune status. In this case, to assess all the above considerations, I reviewed [plaintiff's] medical records, his deposition, as well as the current quantitative wood dust exposure estimates for [plaintiff] assessed by [plaintiff's] industrial hygiene expert, Dr. Rachel Jones.

(Brandwein-Weber Decl., Sec. II, ¶¶ 1-2). She further states: "In [plaintiff's] case, I examined [plaintiff's] medical records and his testimony for any risk factors that may have contributed to his [disease]¹³ and, apart from his exposure to wood dust, I have ruled out, to a reasonable degree of medical certainty, that any other known risk factors for sinonasal cancer contributed to [plaintiff's] disease." (Id. ¶ 13).

Similarly, Dr. Boles explains:

I have considered other potential causes to [plaintiff's] ITAC. While tobacco exposure is a clear cause of many upper aerodigestive cancers, including squamous cell carcinoma of the head and neck, it is not clearly associated with risk for SNC in general or ITAC specifically. Furthermore, [plaintiff] has no tobacco exposure history according to his medical records. Exposure to dusts from manufacture of textiles and leather have also been listed as significant risks for the development of SNC. There was no elicited history of exposure to these and therefore these may be

¹³ In this passage, Dr. Brandwein-Weber uses the acronym "AML," which appears to be referencing a different disease than plaintiff's ITAC. Based on the context of the other material in the declaration, however, this appears to be a scrivener's error.

ruled out as a causative link. High risk HPV has been established as a risk for the development of head and neck carcinomas arising primarily in the oropharynx but as outlined above HPV has not been clearly identified in sinonasal adenocarcinoma cases. Therefore, I do not believe high risk sexual behavior as a surrogate for high risk HPV exposure is relevant to a discussion of [plaintiff's] ITAC. I do not believe there has been a causally defined relationship between viral infection and nonsquamous cell carcinomas of the sinonasal tract, specifically as it relates to ITAC. I have evaluated and ruled out potential causes for [plaintiff's] ITAC apart from his wood dust exposure. I conclude to a reasonable degree of scientific certainty that [plaintiff's] exposure to wood dust in his family's wood shop was the cause of his ITAC.

(Boles Rep. at 7-8; Boles Decl. ¶¶ 26-29).

In discussing their opinion on specific causation, Drs. Brandwein-Weber and Boles rely upon Dr. Jones's quantitative opinion of plaintiff's exposures. (See, e.g., Boles Rep. at 7; Brandwein-Weber Rep. at 3; Brandwein-Weber Decl., Sec. II, ¶ 2). Where the court has determined that Dr. Jones's quantitative opinion is relevant and reliable, Dr. Brandwein-Weber and Boles reasonably rely upon it. In addition, Drs. Brandwein-Weber and Boles rely upon their own "qualitative" opinion that plaintiff's exposures are "substantial" and "significant." (Brandwein-Weber Decl., Sec. II, ¶¶ 2, 23; Boles Rep. at 3-5; Boles Decl. ¶¶ 24, 37). For the reasons stated in addressing Dr. Jones's quantitative and qualitative opinions, the qualitative exposure opinions of Drs. Brandwein-Weber and Boles are both relevant and reliable for purposes of supporting their specific causation opinions. See Westberry, 178 F.3d at 264 ("[T]his clearly is not a case in which the plaintiff was unable to establish any substantial exposure to the allegedly defective product.").

As noted, Drs. Brandwein-Weber and Boles also offer opinions on general causation, consistent with Dr. Aronson's opinion. (Brandwein-Weber Decl. ¶ 17, 20-21; Boles Rep. at 2-6; Boles Decl. ¶¶ 32-33). While Dr. Boles relies in part upon Dr. Aronson's opinion and in part on his own independent assessment, Dr. Brandwein-Weber opines on general causation without reference

to Dr. Aronson. (See id.). In that part where Dr. Boles relies upon Dr. Aronson’s opinion, his general causation opinion is reliable for the reasons discussed by the court in evaluating Dr. Aronson’s opinion. The court writes separately here to address the independent general causation opinions expressed by Drs. Brandwein-Weber and Dr. Boles.

Dr. Boles’ independent general causation opinion is relevant and reliable because it relies upon the many of the same techniques and sources that supported the opinion of Dr. Aronson. For example, Dr. Boles independently applies the “Bradford-Hill criteria.” (Boles Decl. ¶¶ 33-34); see In re Lipitor, 892 F.3d at 638; RMSE 600. In addition, he contributes to the analysis of such factors in this case, particularly with respect to the factor of “coherence” or “biological plausibility.” Id.

In this respect, Dr. Boles explains that causation of plaintiff’s disease through “[w]ood dust exposure is ‘coherent’ with the proposed oncogenesis of SNC.” (Boles Decl. ¶ 33). He explains the biological processes behind this conclusion:

One current theory for the oncogenesis of ITAC is that it develops through intestinal metaplasia induced by wood dust. It is hypothesized that normal respiratory mucosa first undergoes cuboidal metaplasia, followed by intestinal metaplasia, and possibly through dysplasia develops into ITAC. Inhaled wood dust particles larger than 5 um, entrapped in mucosa of middle turbinate and ethmoid weaken the ciliary function in nasal cells, which prolongs the contact between the particles and mucosa. Because it is suggested that wood dust does not have direct mutagenic properties of its own, it may be hypothesized the prolonged exposure to an irritation by wood dust particles stimulate cellular turnover by inflammatory pathways. Chronic inflammation is recognized as an important mechanism in tumor initiation and progression in various tumor types (Hoeben 2016).

(Boles Rep. at 2). Further, in addition to referencing directly studies cited in Dr. Aronson’s report, Dr. Boles independently discusses studies supporting his general causation opinion, including Leivo (2016), Binazzi (2015,) and IARC (2012). (Boles Rep. 1-2). In sum, Dr. Boles’s independent general causation opinion is both relevant and reliable.

By contrast, certain expressions of Dr. Brandwein-Weber's opinion on general causation contained in her declaration are not supported by a reliable explanation of methodology and are likely to mislead a jury. For example, she opines:

The histology of wood exposure-related sinonasal cancers are not limited to ITAC, however this phenotype represents the “textbook” example of wood dust exposure mediated cancer. ITAC is known in the medical community as a “signal” tumor as it relates to wood dust exposure, and the causal connection between ITAC and wood dust is not disputed in the medical and scientific literature.

(Brandwein-Weber Decl., Sec. II, ¶ 17). She repeats the reference to “signal tumor” later in her declaration without further explanation of the term. (*Id.* ¶ 24). To say the causal connection “is not disputed” is an overstatement and hyperbole, in light of the discussion herein regarding Dr. Aronson's general causation opinion. Further, Dr. Brandwein-Weber's statements regarding a “‘textbook’ example,” and a “‘signal’ tumor” are not sufficiently explained, nor based in demonstrated scientific methodology or relevant education and experience, to be accepted under the circumstances of this case as reliable. Her recourse to broad and unqualified terms in these statements is likely to mislead the jury. Testimony by Dr. Brandwein-Weber in this manner is excluded.

This is not to say that all statements by Dr. Brandwein-Weber in her declaration regarding general causation principles are unreliable. For example, Dr. Brandwein-Weber opines generally that “for any person who has developed sinonasal adenocarcinoma and has had a prior history of substantial exposure to wood dust should be considered a substantial factor that contributed to that individual's sinonasal adenocarcinoma.” (Brandwein-Weber Decl., Sec. II, ¶ 16) (emphasis added). She derives support from this conclusion “based upon published data by the [IARC] and recent meta-analysis (Binazzi, 2015).” (*Id.*). She also states “even if [plaintiff's] exposures were solely

from softwoods, there is literature that shows significant risk for sinonasal adenocarcinoma,” relying upon IARC and Siew (2017). (Id. ¶ 21) (emphasis added). Insofar as Dr. Brandwein-Weber seeks to use such statements touching upon general causation as a basis for her specific causation opinion, her opinion is relevant and reliable. In remaining part, Dr. Brandwein-Weber’s expressions of general causation opinions, as set forth above must be excluded. Defendants’ motion to exclude testimony of Dr. Brandwein-Weber thus is granted in this limited part.

Defendants argue that the opinions of Drs. Brandwein-Weber and Boles are unreliable because they fail to “rule out idiopathic cause,” pointing to evidence that up to 80 percent of ITAC cases are idiopathic (or having “no known cause”). (Defs’ Br. (DE 135) at 11). This argument is not a proper basis for excluding their opinions for several reasons. First, Drs. Brandwein-Weber and Boles explain why they ruled out the possibility that plaintiff’s ITAC was idiopathic under the circumstances of this case. (Brandwein-Weber Decl. ¶ 24; Boles Decl. ¶ 38). Second, by considering multiple other potential causes of plaintiff’s ITAC and concluding that exposure to wood dust was the cause of plaintiff’s ITAC, Drs. Brandwein-Weber and Boles necessarily addressed and rejected idiopathic cause in this instance. (See id.). Third, consideration that a disease is “idiopathic” is not a required component of differential diagnosis, where an expert has “at least consider[ed] other factors that could have been the sole cause of the plaintiff’s injury.” In re Lipitor, 892 F.3d at 644.

Moreover, a differential diagnosis methodology may be defeated where a defendant has shown that “many other risk factors can independently cause [plaintiff’s disease] and cannot be ruled out,” or the expert has not offered a “reasonable explanation as to why he or she has concluded that any alternative cause suggested by the defense was not the sole cause.” Id. Notably, here,

defendants do not suggest any alternative cause of plaintiff's ITAC, much less one that "cannot be ruled out" or one that is the "sole cause" of the disease. Id. In addition, the source of the 80 percent idiopathic figure defendants' cite does not specify whether this is derived from all cases of ITAC, versus cases such as the instant case where the facts establish a reasonable inference of substantial exposure to wood dust. (See Stark Dep. 106).

A case cited by defendants on the issue of idiopathic cause, Kilpatrick v. Breg, Inc., 613 F.3d 1329, 1342 (11th Cir. 2010), is instructively distinguishable. There the court noted that an expert's general causation opinion properly was considered unreliable where "[s]everal of the articles [plaintiff's expert] relied upon expressly noted that the cause of chondrolysis remains unknown, and that idiopathic causes could play a factor." Id. Based upon the monographs and studies cited by Drs. Aronson, Brandwein-Weber, and Boles, by contrast, ITAC is not a disease for which it can be said simply that "the cause . . . remains unknown." Id.

Defendants also argue that this case is analogous to Yates v. Ford Motor Company, 113 F.Supp.3d 841 (E.D.N.C. 2015), in which this court excluded a causation expert as unreliable. Yates, however, is instructively distinguishable in multiple critical respects. There, the court addressed claims brought by a plaintiff with mesothelioma against two corporate defendants, Ford and Honeywell, that had manufactured brakes and auto parts, on the basis that the plaintiff was exposed to asbestos through products present primarily at his work as a clerk at an automobile repair station for six months. See id. at 860. The plaintiff's work history included alleged "multiple potential sources of exposure" to asbestos at different places of work, including three years working on ships containing asbestos. Id. at 852, 862.

The court in Yates analyzed an expert opinion that the plaintiff's exposure of asbestos from products manufactured by Ford and Honeywell was a "medical cause" of plaintiff's mesothelioma. Yates, 113 F.Supp.3d at 852. The court's analysis in Yates was grounded in several important factors not present in the instant case. First, it was undisputed that plaintiff was exposed to asbestos not only from Ford and Honeywell brakes primarily as parts clerk for six months, but also from "thermal insulation while decommissioning a ship during his time in the Navy." Id. at 852. Second, it was undisputed that plaintiff's exposure from Ford and Honeywell brakes was to "chrysotile asbestos." Id. Third, it was undisputed that this was a less potent form of asbestos than "amphibole asbestos," the form encountered while plaintiff was employed with the Navy. Id.; see Yates v. Ford Motor Co., 143 F.Supp. 3d 386, 391 (E.D.N.C. 2015) (Yates II).

These key facts distinguishable from the instant facts contributed to the court's decision in Yates to exclude the expert opinion. Notably, there, the expert's opinion was "not based upon differential diagnosis, and thus [had to] find grounding in other scientific evidence." Yates II, 143 F. Supp. 3d. The expert was required to, but did not, "account exposure to [the] similar, but more potent, amphibole form of asbestos substance encountered through [the plaintiff's] employment with the Navy, as a potential cause for injury." Id. The expert did not "at least offer[] a reliable explanation for why it is proper" to consider exposures from "all asbestos-containing products, without distinguishing between fiber types." Yates, 113 F.Supp.3d at 854. The expert also did not "sufficiently explain how [the plaintiff's] exposures should be compared to a study of persons whose 'usual' occupations were as automobile mechanics." Id. at 860. Plaintiff's experts in the instant case have not so failed in reliability.

Defendants also argue that the opinions of Drs. Brandwein-Weber and Boles are unreliable because they failure to quantify a threshold amount or sufficient “dose” for determining substantial or significant wood dust exposure, and they offer no conclusion about exposure to either or both of defendants’ products would meet such a threshold. There is no question that “dose matters.” In re Lipitor, 892 F.3d at 639. But, not “every case involving a claim of injury resulting from a [substance] will require a dose-by-dose analysis, and an expert witness will not necessarily need to define the precise lower bound of exposure risk.” Id. In contrast to cases that “lend themselves quite well to dosage analysis” such as cases where “pharmaceutical drugs are typically prescribed and consumed in measured and knowable quantities,” most “other toxic tort cases (talcum powder, for instance, or asbestos)” involve circumstances where it is “sufficient for the plaintiff to introduce evidence of ‘substantial exposure.’” Id. (quoting Westberry, 178 F.3d at 264). Plaintiff has met this standard here with his proffered experts. As discussed herein, viewing the facts in the light most favorable to plaintiff, on the basis of the present record, plaintiff’s experts opinions as to plaintiff’s substantial exposures to wood dust from defendants’ products are relevant and reliable. In addition, as noted above with respect to Dr. Jones’s opinion, the court leaves for later determination, upon a more complete record, the issue whether plaintiff has sufficiently demonstrated a genuine issue of material fact as to the respective responsibility and duties of defendants Weyerhaeuser and Georgia Pacific in supplying wood for plaintiff’s wood shop.

Defendants also argue that Drs. Brandwein-Weber and Boles fail to take into account properly the distinction between hardwood and softwood dust exposure, the distinction between ITAC and other types of SNC, as well as the distinction between occupational and “hobby”

exposures. For the reasons stated in upholding the opinions of Drs. Aronson and Jones, however, these arguments are unavailing.

In sum, only part of the opinion expressed by Dr. Brandwein-Weber touching on general causation must be excluded, and defendants' motion to exclude is granted in this limited part. In remaining respects the opinions of Drs. Brandwein-Weber and Boles are not subject to exclusion under Daubert, and defendants' motions are denied.

CONCLUSION


Based on the foregoing, defendants' motions to exclude expert testimony of Drs. Aronson and Boles (DE 136, 138) are DENIED, and defendants' motions to exclude expert testimony of Drs. Brandwein-Weber and Jones (DE 134, 139), are GRANTED IN PART and DENIED IN PART as set forth herein. Defendants' motion to strike declarations (DE 159) is DENIED, but the court AWARDS defendants alternative sanctions and relief as set forth herein. Motions for joinder filed by defendant Weyerhaeuser (DE 165, 166) are GRANTED. The court in its discretion dispenses with oral argument and evidentiary hearing because the facts and legal contentions are adequately presented in the materials before this court and argument and evidentiary hearing would not aid the decisional process.

With respect to reopening of discovery and deadline for summary judgment briefing, the court DIRECTS the parties to confer and file joint notice (or separate notices if necessary) proposing a period of limited additional expert discovery to allow defendants time (if desired) to amend or supplement their own experts' reports and to conduct limited supplemental depositions of plaintiff's experts. In addition, the parties shall propose a new deadline for summary judgment briefing. The court expands page limitations by **five** pages for opening summary judgment briefs and responses

in order to accommodate discussion of additional issues, if desired, arising from supplemental expert discovery. In addition, the court directs defendants to file within **30 days** of the date of this order a notice setting forth an itemized statement of reasonable attorney's fees and costs associated exclusively with briefing on the motion to exclude. Within **14 days** of filing thereof, plaintiff may file a response addressed to the propriety of such sanctions and the amount thereof. Defendants may file a reply within **7 days** thereof. Thereupon, the court will enter such final order as is warranted on the issue of sanctions.

In addition, in light of October 12, 2017, joint letter announcing settlement between plaintiff and defendant Lowe's, the court DIRECTS plaintiff and defendant Lowe's to file a stipulation of dismissal or motion as appropriate, on the basis thereon, within **21 days** of the date of this order.

SO ORDERED, this the 20th day of September, 2018.



LOUISE W. FLANAGAN
United States District Judge